



## Chronic Wasting Disease in Deer - Detection Efforts

### Introduction

Chronic Wasting Disease (CWD) is a neurological disease found in deer, elk, and moose. CWD belongs to a family of diseases known as transmissible spongiform encephalopathies that also includes bovine spongiform encephalopathy (BSE, also known as Mad Cow disease) and scrapie. The disease is caused by abnormal, protein-like particles called prions that slowly attack the brain, causing an animal to progressively become emaciated, display abnormal behavior and ultimately die. Infected animals may also wander aimlessly, have excessive salivation, drink and urinate excessively, and have tremors. These animals can still reproduce and grow large antlers. Although clinical signs may be suggestive of CWD, laboratory analysis is required to diagnose the disease. There is no known treatment for CWD. There is currently no evidence to suggest CWD poses a risk for humans or domestic animals.

Although the origin of CWD is unknown, it is suspected that this disease is non-native to North America.

CWD was first recognized in 1967 in Colorado, and has subsequently been found in wild and captive herds in fifteen states and two Canadian provinces. The source of infection for wild and captive cervids in new areas is unknown in many instances. The infectious agent may be passed in feces, urine, or saliva. Indirect transmission through environmental contamination (e.g. soils containing infective material) is also possible.

In 2002, the National Park Service issued guidance to parks on CWD response. That guidance mandated surveillance if a park was within 60 miles of a detection as well as restrictions on animal movement, the need for cooperation with the states, and decision-making related to disease management within a NEPA framework.



White-tailed Deer in Big Meadows  
Photo by Wendy Hochstedler (NPS)

### Management Needs

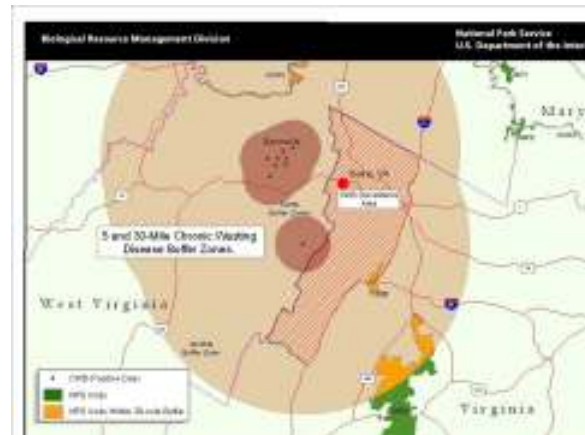
During the fall of 2005, five CWD-positive deer were found near

Slanesville, WV (Hampshire County). This was the first CWD detection in WV. This find is less than 40 miles from Shenandoah National Park. West Virginia Department of Natural Resources (WV DNR) and the Virginia Department of Game (VDGIF) established a containment area with a 20 mile radius around these detections. VDGIF issued a no deer movement policy for the entire state of Virginia.

In 2006, WV DNR found another six cases in Hampshire County, WV (within the existing containment area). Since that time additional cases have been found, some of which have been even closer to Shenandoah National Park. In 2009, CWD was detected in Virginia near the town of Gore, west of Winchester.

It is highly likely that CWD will eventually spread to the park.

Additional risk is posed to Shenandoah because of relatively high deer densities in portions of the park and because of presence of captive deer facilities in neighboring counties. The remote nature of many areas in the park and some history of dumping of carcasses in those remote areas further intensifies the level of risk to park deer because those carcasses can spread the disease.



West Virginia and Virginia CWD Detections and Park Boundary

### Current Procedures

In response to this situation, park and regional staff have started monitoring efforts under a NEPA categorical exclusion. Currently staff is sampling deer opportunistically. Specimens for laboratory analysis are coming almost exclusively from deer that are killed or severely injured (such that they need to be euthanized) in motor vehicle accidents. In addition, the categorical exclusion allows sampling from deer that exhibit symptoms of the disease (targeted surveillance) but none of this sampling has occurred in the park to date. Furthermore, nuisance deer capture/relocation operations in Shenandoah are suspended.

Planning and compliance has been initiated to prepare for initial response and assessment of the disease in the form of an Environmental Assessment. That planning will result in the ability of the park to take monitoring actions beyond those



## Chronic Wasting Disease in Deer - Detection Efforts (continued...)

covered under the categorical exclusion and to take steps to determine disease prevalence rates should the disease be detected within the park. This effort will culminate with the release of an Environmental Assessment and an anticipated Finding of No Significant Impact. This planning effort is being undertaken in consultation with park, region, and Washington Office staff and has actively involved state officials.

Completion of the Environmental Assessment (EA) will allow park staff to take further monitoring actions. It will allow the collection of tonsillar biopsies from deer that are being handled and immobilized for scientific studies regardless of their health. Additionally, some sampling and assessment schemes involve the collection of specimens from animals that are believed to be in good health. In fact, they require that otherwise healthy animals be euthanized for sampling. The Environmental Assessment may authorize euthanizing animals that appear to be healthy.

The Detection Plan and its EA do not address disease management. An Environmental Impact Statement (EIS) and Long Term Management Plan are essential to allow actions, including euthanization, to manage the disease once it is determined to be present in the park.

A management plan is needed to provide a systematic, planned, approach for management actions related to CWD. Work on this EIS has just gotten underway as of the preparation of this Fact Sheet.



*Unhealthy Deer - Photo by Wyoming Game and Fish Department*

### Accomplishments

Thus far, all test results from park samples have come back negative. To our knowledge, CWD is not present in park deer at this stage.

Park staff members are remaining diligent in our spotlight counts of deer to help us better understand park deer densities. Densities influence disease transmission and will become a factor in determining sampling sizes as we continue our detection and prevalence determination efforts.

### More Information

According to public health and animal health officials, data available to date indicate that CWD cannot be naturally transmitted to humans, or to animals other than deer or elk.

For more information about CWD and current updates, please visit these websites:

CWD Alliance at:  
<http://www.cwd-info.org/>

Virginia Department of Game and Inland Fish at:  
<http://www.dgif.virginia.gov/wildlife/diseases/cwd/>

National Park Service Wildlife Health at:  
<http://www.nature.nps.gov/biology/wildlifehealth/>

USGS National Wildlife Health Center at:  
[http://www.nwhc.usgs.gov/disease\\_information/chronic\\_wasting\\_disease/index.jsp](http://www.nwhc.usgs.gov/disease_information/chronic_wasting_disease/index.jsp)

